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AUTHOR Reed, Jim F.
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ABSTRACT

This publication presents examples of outcome and institutional effectiveness information produced through student and employer follow-up for Texas community and technical colleges from 1978-1987. The data in the booklet were collected through the Texas Student Information System (Tex-SIS) and are presented in reference to a series of questions usually answered in an evaluation of institutional effectiveness, such as: "To what extent are our students accomplishing their educational goals?" "Are our occupational students successful in obtaining jobs in the the field for which they are trained?" "How do our university transfer students rate the preparation they received from our college for completing their education?" and "How do employers rate the training received by our occupational students?" Selected examples of outcome and institutional effectiveness include: (1) 80% of Texas vocational graduates who are available for placement are employed in a field related to their training; (2) the average annual salary of graduates of two-year associate degree occupational programs is $17,652, and $13,368 for completers of one-year certificate programs; (3) 77% of university transfer students describe their preparation as excelllent or satisfactory, while 4% describe it as fair or inadequate; and (4) employers give the highest ratings to students in technical areas, and in reference to work quality, following instructions, and technical knowledge. Closing sections present advice on the effective use of data for labor market analyses, institutional effectiveness studies, student counseling, and follow-up studies. (ALB)

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An "A" for Accountability

Profile of Student and Employer Follow-up

in

Texas Community and Technical Colleges

1978 - 1987

Tex-SIS is a statewide student and employer follow-up system supported by public community and technical colleges in Texas and other states. For additional information, contact:

Dr. Jim F. Reed, Director
Tex-SIS Student Information Systems
610 West Seventh
Corsicana, Texas 75110
(214) 872-7463

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FOREWORD

The purpose of this booklet is to provide examples of outcome and institutional effectiveness information produced through student and employer follow-up. It is intended for use by community/technical college professionals, agency personnel, and others who are interested in the role, scope, and effectiveness of Texas community and technical colleges.

The information in this booklet represents the cooperative Tex-SIS survey efforts of many individuals, colleges, agencies, and other groups since 1974. **An "A" For Accountability** sends a clear message of consistent institutional collaboration over a long period of time. The Tex-SIS data base represents one of the most extensive sources of community and technical college follow-up data available today.

Information from currently enrolled students, former students, and employers is used to plan programs of support which coincide with the needs of the colleges' constituency. Information such as Tex-SIS student and employer follow-up information is continually monitored to answer a variety of different questions regarding institutional effectiveness and plans for future development. Some of these questions are:

* What are the educational goals of our students and how can we best help them to meet those goals?

* To what extent are our students accomplishing their educational goals?

* How do our former students rate the instruction they received at our college?

* Are our occupational students successful in obtaining jobs in the field for which they are trained?
and . . . . if they are not employed in the field for which trained, why not?

* How do our university transfer students rate the preparation they received from our college for completing their education at a four year institution?

* How do the students rate our student services areas (counseling, library services, course advisement, student activities, job placement, tutoring, learning packages, etc.)

* In what types of jobs are our occupational graduates employed and what are their earning levels?

* How do employers rate the training received by our occupational students?

* Where do our former students go after they graduate?

* How best can we serve our students after they graduate?

* What do our former students tell us about their college experiences?

The community and technical colleges of Texas use many types of information to enhance their educational offerings. The ability to secure such substantive institutional effectiveness information as the above assures that the colleges offer the best quality education available for the money spent.

In addition to this booklet, Tex-SIS data results are disseminated on a regular basis through presentations, publications, and a Newsletter titled **Tex-SIS One-Liners**. Other publications and the Newsletter address the above (and other) issues in more detail.

SOME BACKGROUND . . . . . THE TEX-SIS FOLLOW-UP SYSTEM

The Tex-SIS Follow-up System was created with developmental funds from the **63rd Texas Legislature,** which - in 1973 - stated that:

"Funds shall be expended for the purpose of developing data directly relating to programs conducted by public junior colleges and shall be for the purpose of developing systems for use by the junior colleges."

The development of Tex-SIS began in 1974 and lasted approximately two years. During the summer of 1976, the Committee on Postsecondary Follow-up decided to implement the Tex-SIS system in the state's community and technical colleges. During the two year developmental phase, survey instruments were finalized and computer support was begun. Now, 12 years later, Tex-SIS continues to operate - with about 87% of the Texas community and technical colleges participating. Since that time, Tex-SIS has expanded into many other colleges and states.

As you might imagine, the amount of information that can be derived from a system which is in its 12th year of operation is immense. With improved computer technology, the processing has been streamlined to the point where colleges now can spend more time **using** the data than preparing it.

There are eight Tex-SIS components from which data can be selected. Of these eight, the students' educational intent, nonreturning student follow-up, first year graduate follow-up, employer follow-up, and Tex-SIS JOBS are the most used by the colleges. Other components include exit/withdrawal follow-up, 3rd and 5th year graduate follow-up, and adult/continuing education course analyses. In Texas, Tex-SIS also fulfills the state's postsecondary follow-up requirements.

WHY FOLLOW-UP?

The collection of student and employer follow-up information is crucial to program planning and decision making in Texas community and technical colleges. Determining educational policy decisions can be a complex task. The necessity to make such decisions in an informed and cost effective manner requires factual outcome and institutional effectiveness data. Student and employer follow-up surveys allow for such information to be communicated to college administration and staff in a systematic and consistent manner. It is not unusual for our former students to tell us:

"Going to college has been a 40 year dream and your community college offered me the opportunity I needed. Your follow-up survey gives me the chance to tell you that."

Graduate follow-up is the most common type of follow-up conducted by the community and technical colleges. An immense amount of statistical and opinion information can be obtained from program graduates, students, and employers of former students. Especially interesting is the "comments" portion of the survey results. How else could you document on a regular basis such stories as the below?

"I had entered your college as a 37 year old single mother with teenagers at home - had 0 cash, few resources, out of school many years. I was working 65 hrs a week as a nurses aide and needed fast, to the point, help. Because I owned a small ranch, I was not eligible for most $$ aide. Thanks to one of your instructors, I got into the RN program. I got some real help and I am now a successful RN. Thanks!"

Colleges select components of follow-up based on their institutional needs. In addition to the above, the colleges seek to communicate the data to others who are interested in accountability and institutional effectiveness data.

Bill Wood, Occupational/Technical Counselor at San Jacinto College Central, tells us that:

"With our upcoming Southern Association self-study, our follow-up data has taken on a new importance. This year we have made an all out effort to disseminate our data not only to administrators and division chairs, but also to the entire technical faculty. We have encouraged them to use this empirical data in their presentations and printed materials. Our District Communications Office is using the data in their media releases and promotional brochures. We are now using the data for setting department goals as well as instructional planning."

ACKNOWLEDGMENTS

The data in this publication is a result of the collaborative efforts of many individuals, agencies, and others who have contributed to the development, operation, and enhancement of Tex-SIS. We wish to extend our appreciation for these contributions. Some of the contributing groups are listed below:

* Texas College Presidents and Administrators

* Texas Community and Technical College System

* State Occupational Information Coordinating Committee of Texas

* Texas Education Agency

* Texas Higher Education Coordinating Board

* Texas Public Community/Junior College Association

* Advisory Council For Technical-Vocational Education in Texas

* Tex-SIS Liaison Personnel

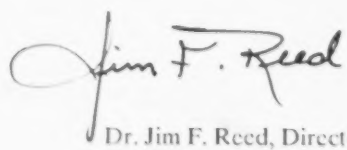
* Michigan State Department of Education and Michigan Community College System

* Mississippi State Department of Education, Division of Junior Colleges, and Mississippi Community College System

* and . . . . the more than 150 other community and technical colleges served by Tex-SIS.

We also extend our appreciation to those individuals helping to review this publication and the thousands of students and employers whose response to the surveys made this information possible.

Comments about findings in this booklet are welcomed and may be included in future Tex-SIS publications. This booklet may be reproduced for dissemination within the institution by those colleges currently participating in Tex-SIS. Other reproduction is prohibited without the written permission of the author. Additional copies are available from Dr. Jim F. Reed, Tex-SIS Student Information Systems, 610 West Seventh, Corsicana, Texas 75110 - Phone (214) 872-7463.



Dr. Jim F. Reed, Director
Tex-SIS Student Information System

WHAT ARE THE EDUCATIONAL GOALS OF OUR STUDENTS AND HOW CAN WE BEST HELP THEM TO MEET THOSE GOALS?

Students come to community and technical colleges for a multitude of different reasons; to improve skills that are needed to advance on their present job, to prepare for a new job, for university transfer credit, for their own personal interest and exploration, and for other reasons. We serve the needs of 18 year old entering students, 35 year old women desiring to enter the workforce, retired people still wanting to continue their education, and many others. We serve the needs of students who are pursuing the completion of a Certificate or Associate Degree program as well as those short term and long term students who can meet their educational needs without completing a formal program.

Because our students have such a wide variety of goals, knowing their goals and the extent to which they completed what they wanted is very important to us. Our student follow-up system is one of the ways we have of knowing whether our students got what they wanted from our college. **Dr. Jack Foreman, Dean Of Occupational Studies at Northeast Texas Community College**, says:

"Our follow-up system has been a very important part of program effectiveness determination. In today's economic climate, when we are even more concerned about efficiency, we become more concerned about effectiveness. The data we receive from the Tex-SIS reports is used to improve programs, redirect programs, and to justify continuing programs that are most productive."

As shown in Figure 1, about 38% of our occupational students are enrolled for reasons other than to complete a program. Many of these reasons relate to the need for selected courses to learn a new skill, supplement a skill that is already possessed, or develop personal skills in areas related to their work environment - without the need to complete a formal college program. When this level of understanding is combined with the fact that we serve a diverse age range of students within the same college environment, it represents remarkable challenges to traditional classroom instructional methods and support by our personnel.

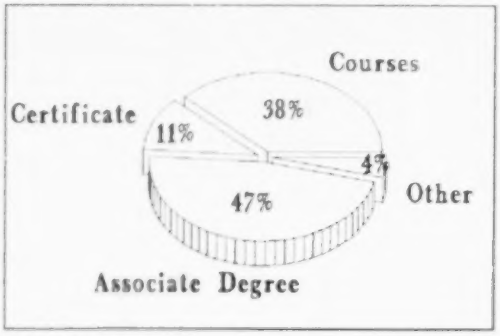


FIG. 1 Students' Pursuance of Course(s)/Degree

Students' educational goals change due to societal and other circumstances which affect individuals' perceptions of how to further their own well-being. Community and technical colleges face tremendous challenges in being comprehensive open-door institutions offering both entry and re-entry level instructional and student services to a variety of populations. For example, this includes services to both the teenage female desiring to enter a Business Administration curriculum and the 40 year old male businessman wanting to increase his knowledge of marketing techniques for his own business - many times within the same classroom environment.

Educational goal data varies considerably by male/female grouping. We now have more females than males enrolling at our colleges and more females than males complete degrees. The shift from a male majority to female majority enrollment has provided many opportunities for restructuring our instructional offerings and support services.

By monitoring our data from Tex-SIS, we are able to view trends and shifts in the educational goals of our students. This type of data is crucial to planning budgets and allocating funds in a manner which coincides with the needs of our students. As our current data shows in the below charts, females' sense of urgency in coursework which prepares them for new jobs now exceeds males' interest in such endeavors by a considerable margin.

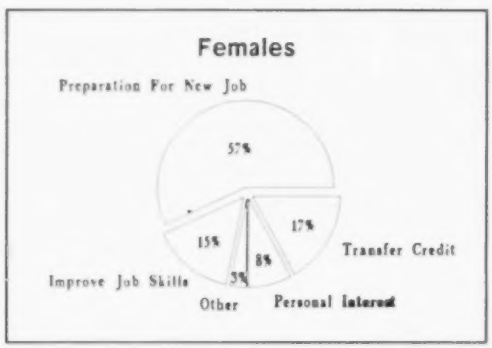


FIG. 2 Students' Educational Goals Occupational

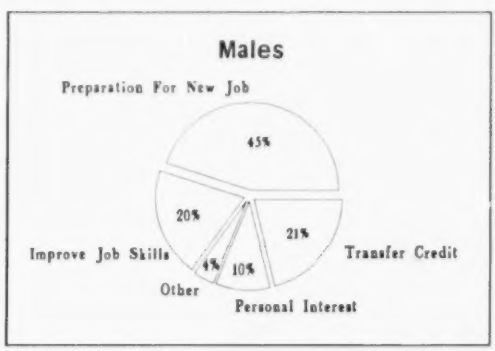


FIG. 3 Students' Educational Goals Occupational

Some of the most interesting and challenging opportunities presented to Texas community and technical colleges involves meeting the expectations of the wide range of age groups we serve. Sensitivity to such educational goal information allows our instructors and staff to meet those expectations to the extent possible.

As the following chart shows, the younger student is primarily interested in pursuing transfer credit coursework and preparing for a new job. As age progresses, interest in transfer work declines and interest in improving job skills increases. Of particular interest is the fact that our students' interest in preparing for a new job continues at a high level past middle age - when "personal interest" goals become more significant.

One of the ways we can best help our students meet their goals is to continually monitor changes and shifts in the needs of students and alter our instructional and student services' strategies. This requires a sophisticated follow-up system which is student centered and sensitive to assessing educational goals and goal completion.

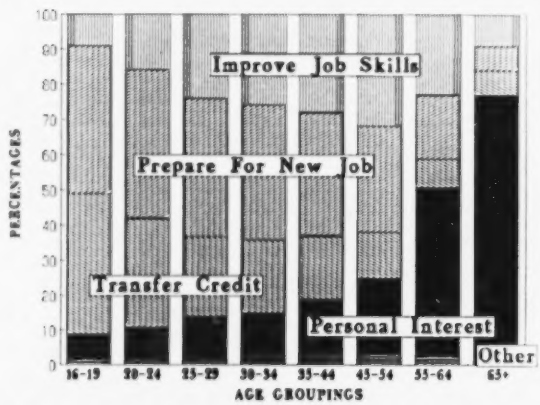


FIG. 4 Educational Goals By Age Grouping

Community and technical college graduates are interested in more coursework at our colleges even though they have completed their degree or certificate. From our follow-up surveys of occupational students, we learn that about 4 out of every 10 of our first year graduates indicate that they plan to continue their enrollment at our colleges (even after their graduation). According to most recent third year graduate surveys, about 3 in 10 actually do - within 3 years after graduation. These occupational graduates reported an average of 9 semester hours completed during their first three years after completing their program. Most of the coursework was in areas related to their need to stay current in their field of employment. This realization causes us to be increasingly sensitive to the needs of our students - even after they graduate from our college.

TO WHAT EXTENT ARE OUR STUDENTS ACCOMPLISHING THEIR EDUCATIONAL GOALS?

From our student surveys, community and technical colleges find out the extent to which our students are accomplishing their educational objectives? Many of our community and technical college students have intermittent enrollment periods and do not regularly enroll on a sequential semester basis. It is not uncommon for such postsecondary students to enroll for one semester, skip one or more semesters, return, and then not immediately re-enroll again. Such comments as the below from a 1985 graduate are not uncommon:

"I have fulfilled a lifelong dream of finally graduating from your college. I've been attending your college off and on since 1972. I couldn't go full-time because I have a family and my finances aren't what I would like them to be. Thanks for being there for me."

The **Governor's Select Committee on Higher Education** produced the **Report to the Task Force on Quality and Access - "Community Colleges: The Wellspring for Higher Education"** - which discusses this issue relative to the necessity for the colleges to be "student-centered" in their approach to their follow-up procedures and instructional offerings:

. . . ."stopping out" for two or three or more years is an increasingly frequent phenomenon among community/junior colleges, necessitating much more sophisticated follow-up systems.

This departure from the traditional stairstep to instructional progression is becoming more and more frequent and - because it is now common for wage earners of our society to change careers as many as four times throughout their careers - one would expect this to continue at an even more rapid pace. It is important for community and technical college professionals and others to understand the various reasons students enroll on an intermittent basis. We find that the reasons differ considerably by male/female groupings - as well as by the different age and ethnic groups. Knowledge of these reasons for not returning (by all the diverse groups of students) presents challenging opportunities for student and college service areas to increase the student's ability to enroll on a more continuous basis if he or she chooses to do so.

A large number of our students state that they do not return for a subsequent semester (after a short enrollment period) because they completed what they wanted from our college. **Dr. Nellie Carr Thorogood, President of North Harris County College's East Campus,** explains:

"We have been interested in learning more about the special needs of our students --- especially within the different age groups. For the past several years, we have asked students (1) why they came to our college (2) if they accomplished their goals and, if not, (3) whether they planned to return. This system allowed us to show that we are meeting the demands of students in all age groups, while recognizing their variety of educational goals."

Of those students who plan to continue their education at a later date, the primary reasons students give for not re-enrolling are the fact that they completed what they wanted, their jobs conflicted with their class scheduling, they had financial problems, or personal/family issues prevented them from re-enrolling that semester. Of the students not re-enrolling, about 9% stated that they did not complete their goal, dropped-out, and have no plans to pursue it anymore.

In addition to goal completion rates being measured, there is sufficient cause (especially in areas related to marketing, retention, and recruitment) to determine why students do not return to college for a subsequent semester. From this data comes many possibilities for marketing and retention strategies. Target populations are identified and areas of priority can be highlighted if the data is analyzed in the appropriate manner.

Reasons for not returning vary by male/female groupings, ethnic, and age categories. For example, as the age of the student increases through the upper 40 age range, personal/family reasons for not returning are more prevalent. Reasons

female students give for not returning normally differ considerably from reasons male students give for not returning. From our most recent data, females gave as their top three reasons for not returning - financial problems, the fact that they completed their educational goal, and personal/family issues.

Males gave as their top reasons - conflicting job hours, the fact that they completed their educational goal, and financial problems. From these types of data, marketing and retention strategies can be effectively designed.

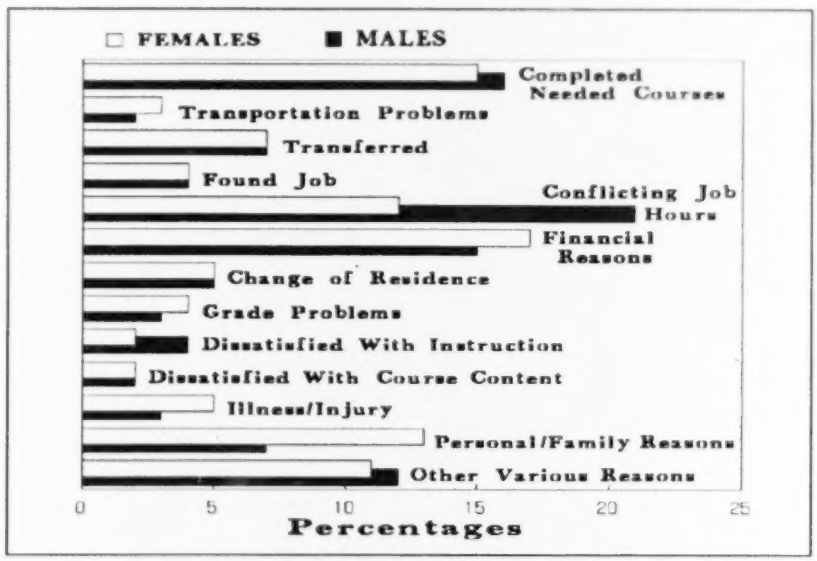


FIG. 5 Students' Reasons For Not Returning

HOW DO OUR FORMER STUDENTS RATE THE INSTRUCTION THEY RECEIVED AT OUR COLLEGE?

Through the use of our follow-up studies, we are able to ascertain areas of strength and areas needing enhancement. Through our surveys, students are asked to rate the instruction in their major field of study. Supervisors and employers also provide us with meaningful feedback. We frequently get employer comments such as:

"I feel more business persons should be made aware of your students and their skills. Her training was a bonus for me, as she came prepared to do a job, that required only a small amount of training time for me."

Our faculty members receive high ratings in all areas - especially in the quality of instruction provided and interest they express in the students' well-being and in their educational needs.

Former students tell us that:

"I was impressed by the genuine concern shown by each instructor for the progress and well being of the students."

Students also give us valuable feedback regarding suggestions for improving our programs: Such comments as the below are valuable in assuring that the programs we offer are the best they can be:

"It would be nice if word processing could be required for computer operations majors. When I started to look for a job, one of the most commonly asked questions was if I knew how to operate a word processor."

"The co-op classes helped me the most. I was able to work and earn credit at the same time. The on-the-job experience has been the best education I could have received."

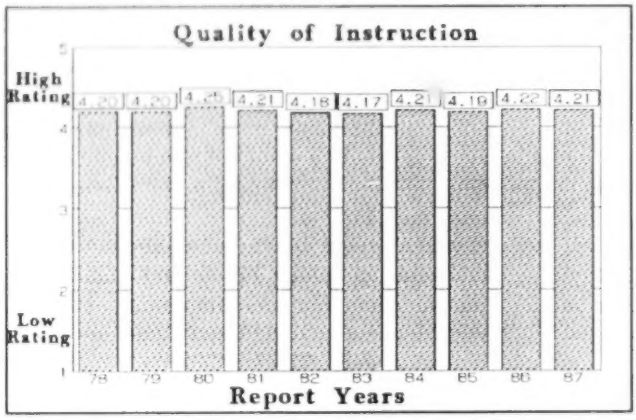


FIG. 6 Student Ratings
10 Year Trend
10 Year Average - 4.20

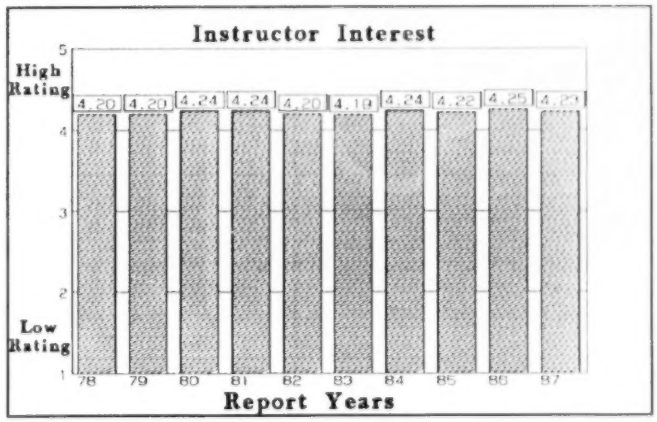


FIG. 7 Student Ratings
10 Year Trend
10 Year Average - 4.22

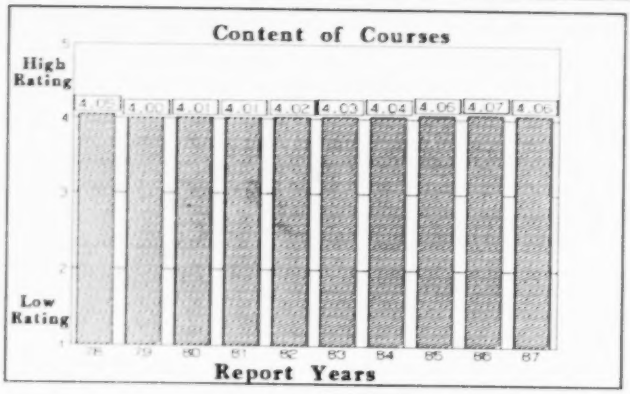


FIG. 8 Student Ratings
10 Year Trend
10 Year Average - 4.04

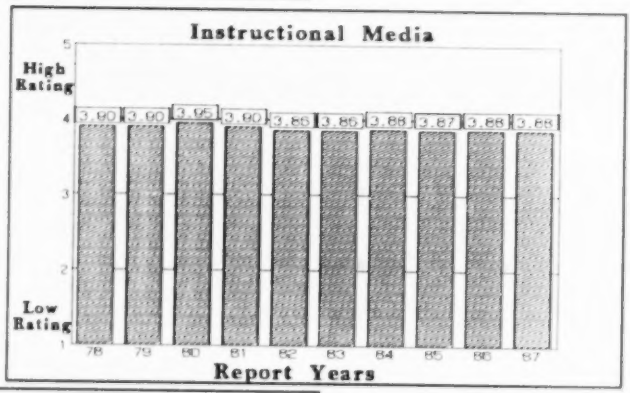


FIG. 9 Student Ratings
10 Year Trend
10 Year Average - 3.89

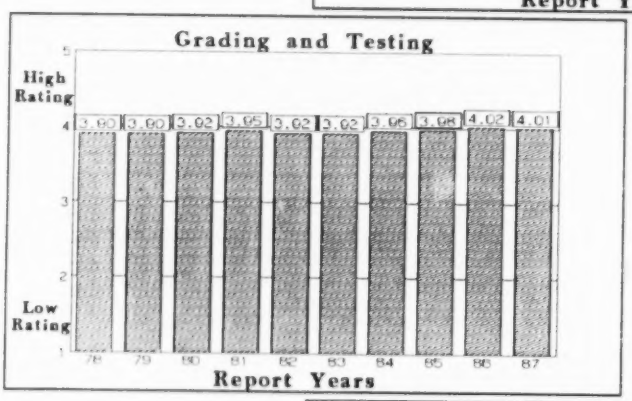


FIG. 10 Student Ratings
10 Year Trend
10 Year Average - 3.95

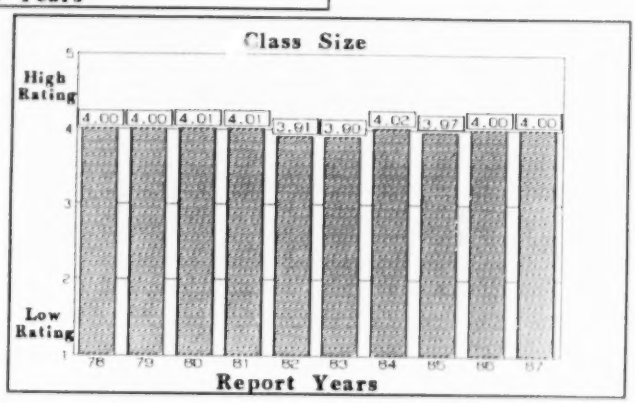


FIG. 11 Student Ratings
10 Year Trend
10 Year Average - 3.98

ARE OUR OCCUPATIONAL STUDENTS SUCCESSFUL IN OBTAINING JOBS IN THE FIELD FOR WHICH THEY TRAINED?

After graduation, approximately 80% of the vocational graduates who are available for placement are employed in a field directly or closely related to their training. The overall statewide placement rate percentage of 80% varies considerably depending upon the occupational program the student studies. Among the highest placement rate percentages from the most current Tex-SIS data includes such programs as Respiratory Therapy (98%), Nursing (96%), Restaurant Management (95%), Heavy Equipment Maintenance (94%), Instrumentation Technology (90%), Occupational Safety and Health (98%), Nuclear Medical Technology (98%), Dental Hygiene (97%), Chemical Technology (97%), Radiologic Technology (96%), Communication Electronics (94%), Aircraft Mechanics (92%), Food Marketing (92%), Physical Therapy Assistant (91%), EMT/Paramedic (88%), Court Reporting (87%), Laser Electro-Optics Technology (86%), and many, many others. Special committees, legislators, and agencies expect us to monitor and regularly report the placement rates of our occupational programs. An excerpt from the **Legislative Program of the Texas Public Community Junior Colleges for the 70th Legislative Session** provided a measure of:

"**Effectiveness and Productiveness** . . . . . *since 1977 follow-up studies of vocational technical students leaving community colleges have documented that statewide over 80% of the technical vocational students are successfully employed in the field for which they are trained. Some colleges place over 90% of their technical students in jobs directly related to training.*"

Depending on the year, the percentage of occupational graduates continuing their education (rather than entering the work force) ranges from 11% to 15%. Others may find employment in another field, choose not to enter the work force, or not be able to find employment.

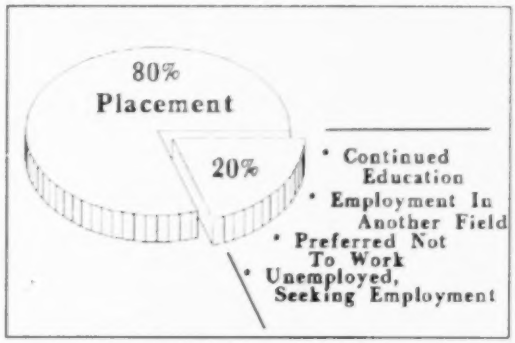


FIG. 12 Placement Rate

In Texas' present economic climate, overall placement rates for many of our community and technical college programs have declined. For example, the statewide average for the Texas colleges (during economically prosperous years) was 85%. This 85% placement rate figure is an extremely impressive figure - especially when one considers the characteristics of the population served and the fact that historically high unemployment and low salary geographic regions are represented. In current economic times, the colleges are still averaging an 80% placement rate over the many years of study. During 1987, the below statement from a program graduate was not unusual:

"The program is a good one. I found a job immediately after college but the company went out of business. I'm still looking but the jobs are scarce."

IF THEY ARE NOT EMPLOYED IN THE FIELD FOR WHICH TRAINED, WHY NOT?

There is an additional issue which should be addressed when placement rates are discussed - - the issue of why the graduates are employed in a field not related to their program of study. The findings are extremely interesting and puts to rest the assumption that the reason for an occupational graduate not being employed in a related field is only because the graduate could not find a job. For example, it is found that, of those occupational graduates employed in a nonrelated field, about 7% found better paying jobs in another field, about 6% worked previously in the field but were

not working in that same field at the time of the survey, and about 12% preferred to work in another field.

For example, on a statewide basis, graduates of auto mechanics programs have not demonstrated high placement rates. When a review of the job titles of graduates of auto mechanics programs is performed, there is found a wide variety of occupations - i.e. construction equipment operators, machine shop managers, construction supervisors, welders, warehouse equipment operators, counter sales persons, maintenance equipment operators, maintenance supervisors, etc. Of those auto mechanic graduates not employed in a directly related field, over half indicate that they preferred another or found a better paying job in another field.

HOW DO OUR UNIVERSITY TRANSFER STUDENTS RATE THE PREPARATION THEY RECEIVED FROM OUR COLLEGE FOR COMPLETING THEIR EDUCATION AT A FOUR YEAR INSTITUTION?

From our follow-up data, we are able to ascertain the extent to which our students feel prepared for the work required at the transfer institution. As shown in the below chart, our former students give us high grades for their degree of preparation for four year college work. We record the numbers of students transferring to each four year college and strive to maintain continual contact with them. After our graduates leave us, we periodically conduct third year and fifth year follow-up studies to learn of their status. Such comments as the below are not unusual:

"I am encouraging my children to consider going to your college and then transferring to a university as I plan to do."

"I enjoyed attending your college for 2 years. I would recommend anyone planning on going to a 4 year university to attend your college for the first two years."

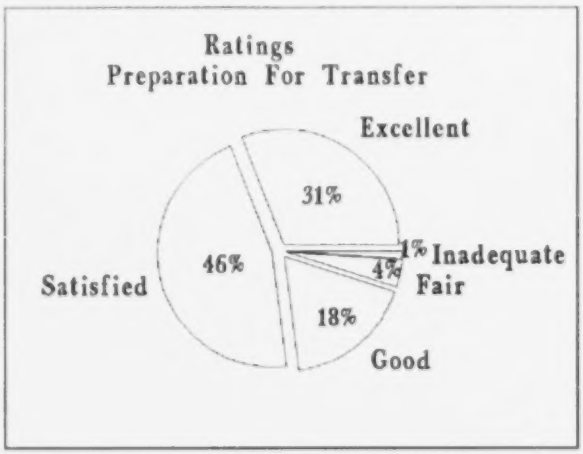


FIG. 13 Ratings of Former Students-Preparation For Transfer

HOW DO THE STUDENTS RATE OUR STUDENT SERVICES AREAS?

Our community and technical colleges are vitally interested in students' opinions of the services provided to them. Graduates and other students are asked their opinions of some of the many services provided by the Texas community/technical colleges.

Such services include financial aid programs, veterans services, job placement services, counseling and course advisement services, special learning packages, tutoring services, library services, student activities, and other services. From these ratings, we are able to ascertain areas of strength and areas of needed improvement.

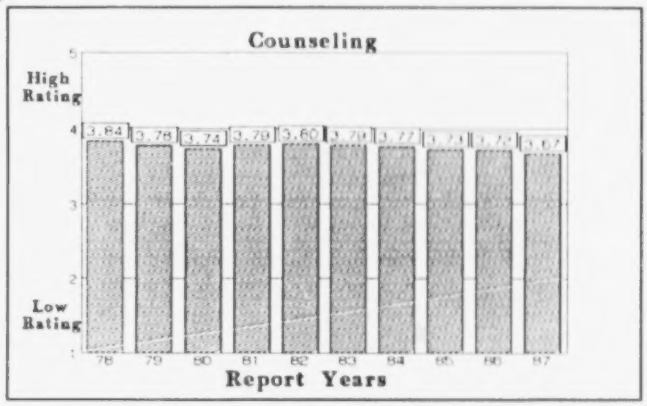


FIG. 14 Student Ratings
10 Year Trend
10 Year Average - 3.76

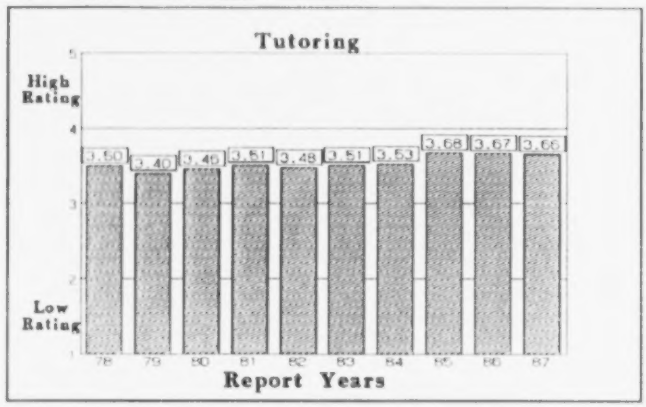


FIG. 15 Student Ratings
10 Year Trend
10 Year Average - 3.54

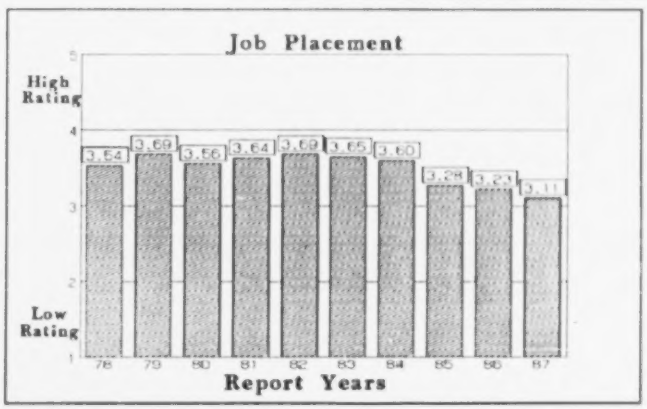


FIG. 16 Student Ratings
10 Year Trend
10 Year Average - 3.50

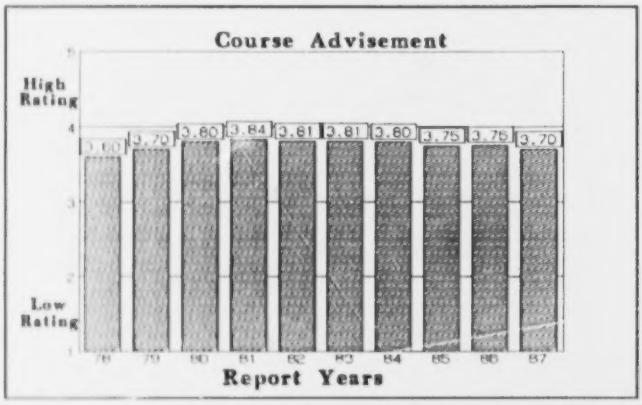


FIG. 17 Student Ratings
10 Year Trend
10 Year Average - 3.76

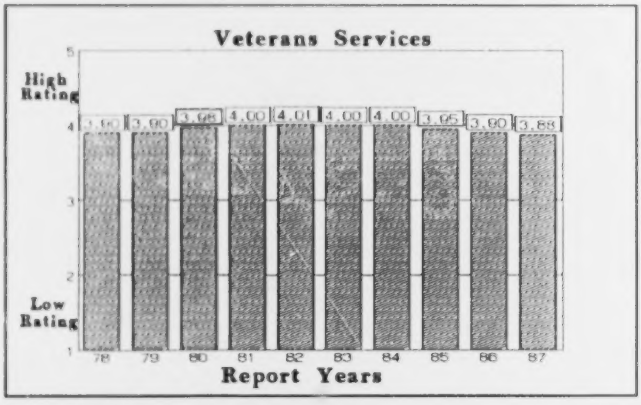


FIG. 18 Student Ratings
10 Year Trend
10 Year Average - 3.95

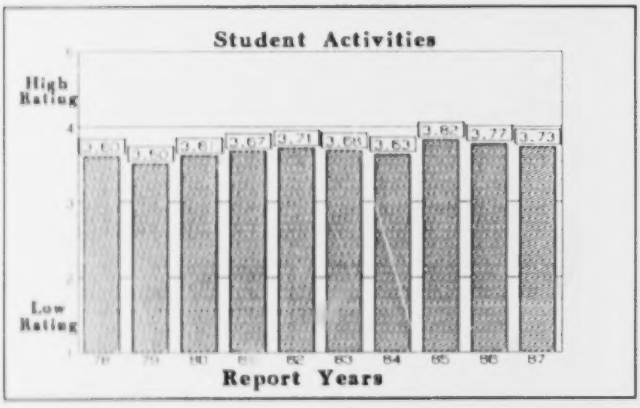


FIG. 19 Student Ratings
10 Year Trend
10 Year Average - 3.67

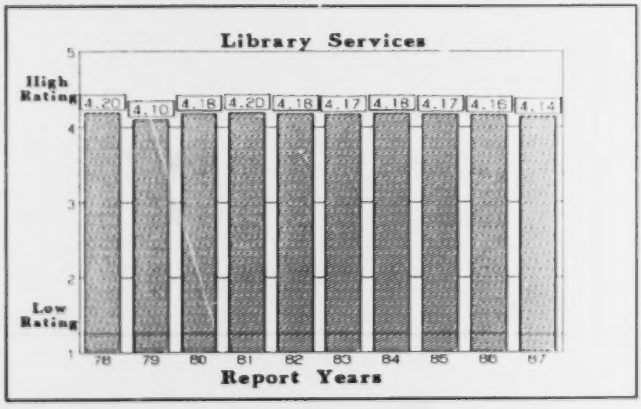


FIG 20 Student Ratings
10 Year Trend
10 Year Average - 4.17

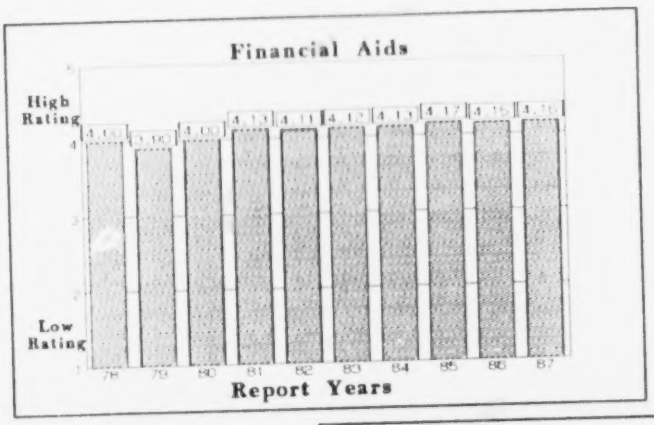


FIG. 21 Student Ratings
10 Year Trend
10 Year Average - 4.09

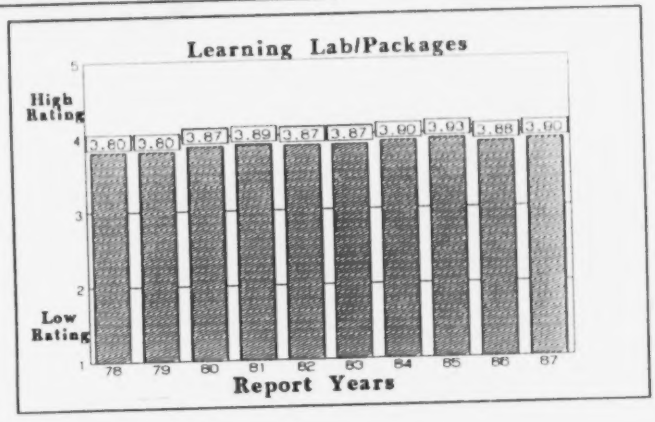


FIG. 22 Student Ratings
10 Year Trend
10 Year Average - 3.87

IN WHAT TYPES OF JOBS ARE OUR OCCUPATIONAL GRADUATES EMPLOYED AND WHAT ARE THEIR EARNING LEVELS?

Our graduates are employed in many types of occupational areas. As shown by the below chart, we are a major supplier of the skills required by the field of Health Services (nurses, physical therapists, dental technicians, respiratory therapists, medical laboratory technicians, surgical technicians, radiologic technicians, etc.). Many of our graduates will be starting companies of their own with management and technical skills learned in the community and technical colleges. A 1986 graduate tells us:

"I'll be starting an import-export business from various companies with a family member. We will be on a computer system. My education that I received from your college has allowed me to write programs and operate the computer for our business."

Each year, our follow-up surveys enable us to provide listings of types of jobs and employers to students who are in the process of deciding upon a career. In addition, we also use this "jobs" data to assess the extent to which our graduates are being employed in areas related to their training. This allows us to upgrade our coursework to meet the changing needs of business and industry.

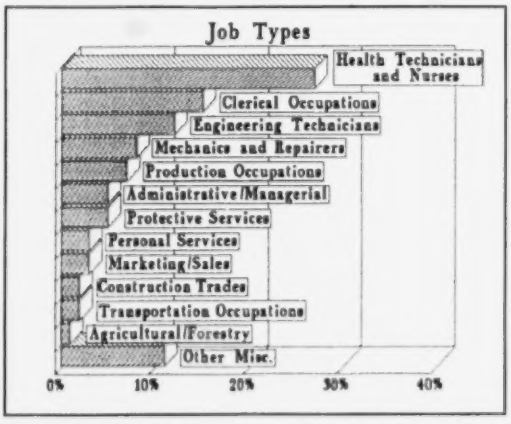


FIG. 23 Job Types - Community/Technical College Graduates

From our follow-up surveys, we are able to ascertain salary ranges of our graduates. This is especially meaningful to our career counselors in their advisement of students who are deciding upon which career to pursue. Earnings vary considerably from program to program - depending upon the demand for a particular skill and the wage rates in that particular occupation. Also, wages vary according to geographic region of the state. Each year, average salary figures are produced for use by the colleges in their assessments of occupational programs and for use in career counseling sessions with students.

Current average annual salaries of the graduates of two year Associate Degree occupational programs is $17,652. For completers of one year Certificate programs, the average annual salary is $13,368. Salaries vary considerably by program area, geographic area, and employee characteristics. Each year, average salary figures are produced for each occupational program area. The below graph represents the progression of Tex-SIS salary data for certain populations of community and technical college graduates.

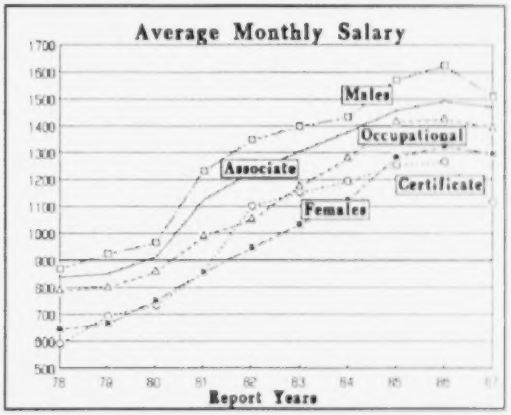


FIG. 24 Average Monthly (FT) Salary Trends

It is known that many occupational graduates may already have obtained a job related to their major field of training prior to their completing their program. According to the most recent data, the average salary of the occupational graduate (both Certificate and Associate Degree) in Texas was $1393 per month; for those who had already obtained a job related to their field of study prior

to graduation time, it was $1597. For ones that could be considered "new-hires", it was $1306 (or about $87 per month less than the overall average). About 65% fall in this "new-hire" category (one year or less); 21% had been employed in a job related to their major field of study from one to five years - while 14% had been employed in such a job over five years.

HOW DO EMPLOYERS RATE THE TRAINING RECEIVED BY OUR OCCUPATIONAL STUDENTS?

Employers of Texas community and technical college former students are asked to rate the training received by the student. Through these and other means, vocational programs can more fully respond to the desires of employers. In addition to these ratings, we survey employers for recommendations on areas of needed improvement in our training programs. **Marilyn Lee, Manager of the Rutherford Campus of Austin Community College,** reports:

"Through the use of our follow-up surveys, we are able to obtain valuable student opinion and rating information - in addition to determining additional courses to offer. We especially like the employer survey which rates our programs along with giving us the occupational look in various fields. This information enables us to identify areas in need of improvement along with planning for future programs."

The employers also provide information regarding the job outlook for certain occupational areas and the need for additional types of training they feel the college should offer. Assessing employer ratings of the training received by our students is one of the ways we can assure that our students are receiving the best training possible.

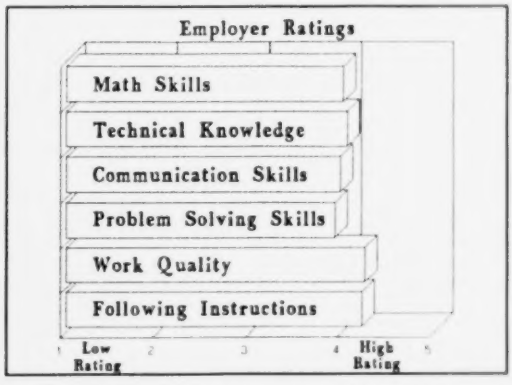


FIG. 25 Employer Technical Skill Ratings

Employers give our former students highest ratings in technical areas related to work quality, following instructions, and technical knowledge. The lowest ratings are given to problem solving skills and personal initiative.

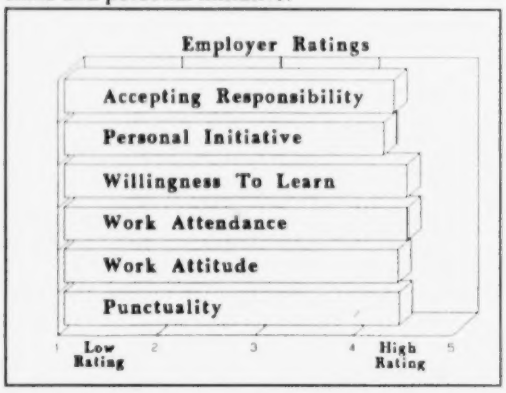


FIG. 26 Employer Personal Skill Ratings

Experience with employer follow-up surveys demonstrate that employer data possesses the greatest potential for impact on the institution. It is not unusual for an institution to achieve in excess of an 80% response rate to its employer surveys. From this data, such items as labor market projections and analyses, suggestions for needed programs and services, assessment of technical and personal skills, and other useful information is collected. Listed below are some examples of common types of employer comments:

"The training that . . . . received has become an asset to our company. Keep up the good work."

"I've employed 2 of your recent graduates. I think you have a good program. The survey tells me that you're interested in doing the best job possible. Thanks for asking for my opinion. If there's anything I can do to help in the future, let me know."

"As personnel manager of our company, I have recommended your college to many of our employees. I feel your college has a very good program - especially for evening students."

"More exposure and emphasis should be placed on using microcomputers in the business environment. Use of software, not development of software, should be stressed."

"Technical skills are excellent. Improvement is needed in interpersonal skills, communication, and problem solving skills."

"By improving problem solving skills, students will be able to continually improve themselves. The initiative of the individual and ability to communicate determines the attitude they have toward themselves and others."

"Add computer training to the program."

"Need more word processing fundamentals in many of your programs."

"Need more emphasis on communication skills."

"Need increased training with equipment and equipment troubleshooting."

"Students need to be better informed about the operation of a business and expenses."

"Your program is excellent."

"This employee worked for me prior to attending your school. However, courses taken by him only advanced him further."

"Train more in teaching initiative and willingness to follow through with problems and/or projects. Stress the importance of taking the initiative to do things for themselves."

WHERE DO OUR FORMER STUDENTS GO AFTER THEY GRADUATE?

According to our most recent survey results, most of our occupational graduates pursue their careers after completing their program and most of our university transfer/academic students transfer to a four year institution. Although this is generally the case, all students do not follow this trend. About 11% of our occupational graduates transfer to a four year institution and many of our university transfer/academic students continue in or enter the workforce.

Approximately 96% of our occupational graduates stay within Texas to work. This high retention rate is important to achieving the best return on each tax dollar spent for skills training. This means that we retain the skills in-state to attract more businesses and industries to our communities and metropolitian areas.

Students trained under the auspices of the Texas community and technical colleges are found everywhere in Texas (and generally remain in our State) - providing services, employing and supervising people, nursing and providing health care when you are sick, assisting the dentist filling a tooth, maintaining your automobiles and household appliances, supervising hotel/motel and food establishments, designing and constructing your office buildings and homes, operating and repairing your microcomputers, performing technical work in a nuclear power plant, enforcing the law and fighting fires, staffing the emergency ambulance, and many, many other occupational areas. Here are only a few of the thousands of examples:

Forest Technician - U.S. Forest Service
Manager - Hair/Beauty Salon
Licensed Practical Nurse - Health Care Center
Maintenance Mechanic - U.S. Air Force
Fire Fighter/EMT - Municipal Fire Department
Registered Nurse - Medical Center
Owner - Welding services
Manager - Child Development Center
Office Nurse - Physician
Paramedic - Emergency Medical Service
Physical Therapist - Hospital
Eligibility Clerk - Department of Human Resources
Bookkeeper - Association
Electronic Technician - Avionics Industry
Field Engineer - Construction Company
Product Engineering Tech - Manufacturing Company
Draftsman - Engineering Firm
Legal Secretary - Attorneys
Executive Secretary - Company President
Systems Analyst - Texas Highway Department
Programmer - Computer Services
Computer Operator - Manufacturer
Balance Reporting Clerk - Bank
Accounting Clerk - Texas Water Commission
Real Estate Appraiser - Self Employed
Director of Marketing - Motel Chain
Senior Loan Officer - Bank
Material Control Manager - Computer Manufacturer
Administrative Assistant - Insurance Company
Deputy Sheriff - County Sheriff Department
Service Technician - Electronic services
Word Processor - Business Firm
Diesel Mechanic - Trucking Firm
Auto Mechanic - Auto Repair Company
Senior Electrical Designer - Industrial Design Firm
Interior Design Consultant - Supply Company
Cosmetologist - Hair/Beauty Salon
Computer Technician - Energy Products Firm
Traffic Manager - Manufacturing Firm
Assistant Data Processing Manager - Oil and Gas Firm
Teacher - Day Care Center
Broker - Self Employed
Assistant General Manager - Country Club
Chef - Food Establishment
Assistant Manager - Restaurant
Human Resource Clerk - Drilling Company
Court Reporter - Court Reporting Services
Appliance Service Technician - Retail Store
Machinist - Machine Shop
Pipe Welder - Construction Company
Chief Investigator - County Sheriff's Office
Patrol Officer - Police Department
Air Conditioning Technician - A/C Repair Firm
Copier Technician - Business Systems Services
Dental Assistant - Dentist
Dental Hygienist - Dentist

Surgical Technician - Hospital
Registered Radiologist - Radiology Associates
Pediatric Nurse - Physician
Food Service Specialist - Food Store
Food Service Manager - School District
Graphics Technician - Business Firm
Engineering Technician - Engineering Firm
Medical Office Assistant - Physician
Manager - Ranch
Operating Room Nurse - Medical Center
Auto Body Repairer - Auto Body Shop
Drafting Technician - University
Nuclear Medical Technician - Hospital
Funeral Director/Apprentice - Funeral Home
Legal Assistant - Attorney
Department Manager - Business Firm
Owner - Real Estate Firm
Junior Accountant - Accounting Firm
Detective - Police Department
Medical Lab Technician - Health Care Center
Software Technician - Aeronautics Firm
X-Ray Technician - Hospital
Chemistry Technician - Medical Laboratory
Office Manager - Income Tax Firm
Animal Technician - Animal Hospital
Bus Mechanic - Transportation Services
Plumber - Plumbing Company
Television Technician - Rental & Repair Services
Pipefitter - Contracting Firm
Correction Officer - Texas Department of Corrections

How can we best serve our students after they graduate?

Community and technical college graduates continue to be interested in more coursework at our colleges even though they have completed a degree or certificate. From our follow-up surveys of occupational students, we learn that about 4 out of every 10 of our first year graduates indicate that they plan to continue their enrollment at our colleges (even after their graduation). According to most recent third year graduate surveys, about 3 in 10 actually do - within 3 years after graduation.

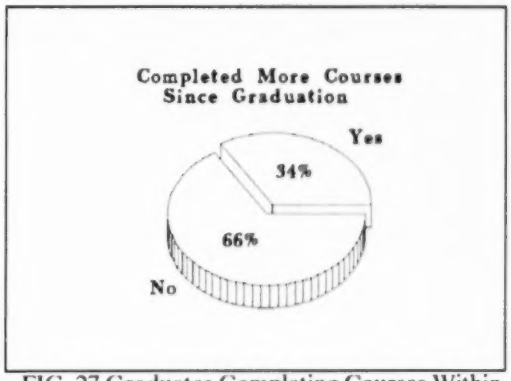


FIG. 27 Graduates Completing Courses Within 3 Years After Graduation

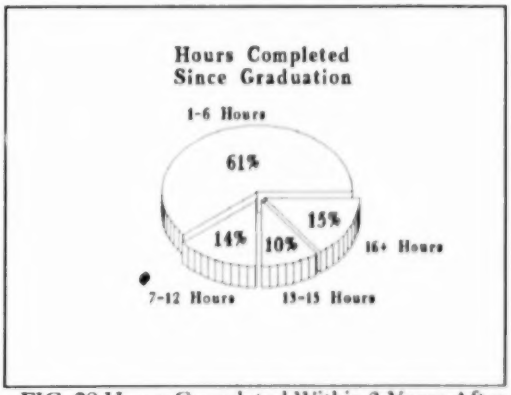


FIG. 28 Hours Completed Within 3 Years After Graduation

These occupational graduates reported an average of 9 semester hours completed during their first three years after completing their program - or about one additional course per year.

As shown in the prior chart, about 75% of these graduates had completed 12 hours or less; 15% had completed 16 or more hours. Much of the coursework was in areas related to the students' need to stay current in their field of employment.

This realization causes us to be increasingly sensitive to the needs of our students - even after they graduate from our college. This sensitivity is discussed by **Jean Garwood, Coordinator of Institutional Research at the Houston Community College System:**

"Our follow-up provides a broad range of data and information related to accountability, student outcomes, regional accreditation, and program approval by national accrediting groups. A broad range of reports are available to fit our needs. We also receive a special analysis of student comments and student ratings, which give us a total look at the issues students feel are most important to them."

Pursuing a continuance of education throughout a person's lifetime is becoming more and more frequent and - because it is now common for wage earners of our society to change careers as many as four times throughout his or her career - one would expect this to continue at an even more rapid pace. Because of our follow-up surveys and other information, community and technical college professionals design instructional and student support strategies to meet this need.

WHAT DO OUR FORMER STUDENTS TELL US ABOUT THEIR COLLEGE EXPERIENCES?

We ask our former students for comments regarding their educational experience at our colleges and if they have suggestions for improvement. We appreciate knowing their opinions of us.

"I have been able to attend your college because of the support services you offer. I will not be able to attend if these are not continued."

"I really enjoyed attending your college. The education was well worth the price paid. Your college is convenient for me to attend."

"I'm glad to see that my college is interested in its former students by following-up. Your follow-up program has provided a great service with this survey."

"I have a very good feeling about my education at your college. The classes are small and the teachers were able to give individual attention. They seem so enthusiastic about teaching."

"Overall a good college system. Instructors are above average."

"If you can give me any information on any companies who offer entry level jobs in my field, would you please send it to me? I would like to make contact."

"The reason I have not continued my education is that I'm not financially able."

"Above all I enjoyed the classes I took. It was a great help in providing education for the field I am in - most of the instructors were excellent - and were sincerely interested in their work."

"Your school is great and I will be back as soon as I am out of debt."

"I liked going to your college for the convenience of parking and because it was near my home."

"I would gladly have enrolled in additional courses, but at this time am unable to secure the necessary financial resources to do so. Please send information about scholarship/tuition aide if available."

"Going to school was a big financial strain on me and many others. The job I have now pays just enough to get by and I'm really thankful I have it. If jobs can be found for people attending the program, it would be beneficial to everyone."

"You did well. I have two sons attending your college at this time. I am well pleased."

"I would have appreciated more career and placement counseling earlier in the program."

"Need a more involved effort by the college to get employers of the area more involved in placing graduates."

"Your college gave me full cooperation and assistance during my tenure there, but I believe more visual aids are needed in the classroom and labs."

"I believe everyone going to college should take a computer awareness course. They should graduate with some typing proficiency. In my office, there were 4 men and 5 women and all work on the computers."

"I think your college is a fine institution for individual learning and personal help from instructors. It is a welcomed introduction for the preparation needed for additional education."

"More work is needed to improve the dialogue between the community colleges and the universities."

"Your college is an excellent community college. Almost every instructor I had was exceptional."

"I have attended your college part-time since it first opened."

"I was impressed with the genuine concern shown by each instructor for the progress and well being of the students."

"We need more help in realizing what courses will help with goals and what will not. Need career counseling."

"To be honest with you, I attended your college for the VA benefits at first. The closer I came to obtaining a degree, the more I wanted one."

"I really enjoyed attending your college. The education was a bargain at your tuition costs. Your college is very convenient for me to attend. It's too bad you aren't a 4 year college."

"I enjoyed and attended your college as a part time student for about 11 years. I received two degrees . . . your college is a lovely school with a lovely campus."

"We need more help in job placement. When a student has completed his or her major, bring in companies to interview them for jobs. This would be beneficial for all involved."

"The community college would better serve transfer students if they had more open communication with the state universities. Better advisement for the transfer student should be a major concern."

USE OF RESULTS

In addition to producing data for program planning and evaluation, our follow-up data is used in many other ways to make the best use of the funds that are appropriated for community and technical college education.

LABOR MARKET INFORMATION

Labor market information is crucial to occupational program planning. A substantial amount of labor market data can be derived from follow-up results if the data is analyzed in the correct manner - and, when the information is combined with certain types of employer data, makes for a substantial portion of a local supply/demand system. **Duwayne Dumas, Director of Student Services at Bee County College,** explains:

"We traditionally take the information received from the questionnaires and evaluate our institution and programmatic effectiveness. By using this information to improve and upgrade our programs and services, we have found that what we need to offer our students will be in line with their needs and expectations. Additionally, the employer surveys have provided us with information about occupations and industry requirements that have kept our occupational programs current in providing skills that are needed in the labor market."

Types of data include such items as (1) program to occupation matches (2) industry to occupation matches (3) placement rates (4) the student's perception of the availability of jobs in areas related to his or her occupational area (5) the employer's rating of the current and future demand for certain occupational areas and (6) listings of employers hiring graduates from our programs.

INSTITUTIONAL EFFECTIVENESS DATA

Follow-up and outcome data can provide a substantial amount of information for measurements of institutional effectiveness. The information can include such items as:

(1) nonreturning students' perception of completion of educational goals (2) placement rates and salary levels of occupational programs (3) students' ratings of the quality of instructional program areas (4) employers' ratings of the college's occupational offerings (5) students' ratings of the effectiveness of the student service areas (6) computations of the college's ability to offer programs which are meeting the employment needs of the service area and (7) comparisons of such data with historical, regional, and statewide data.

The collection of follow-up and outcome information is a valuable part of measuring the effectiveness of our institutions. **Richard Minter, Dean of Program Development at Tyler Junior College**, illustrates:

"With the current emphasis which the Southern Association of Colleges and Schools is placing on institutional effectiveness, the student follow-up activities have become even more valuable than before. They provide us with valuable feedback which will be used to determine the effectiveness of our occupational programs as seen through the eyes of both the graduates and the employers."

In addition to placement rates, the extent to which students complete their educational goals, employer ratings, the opinions of our former students, and other information are very important to us - especially in areas related to quality of instruction and course content, instructors' interest in student progress, job placement and counseling services, tutoring services, and other student support services.

As presented in the **Resource Manual on Institutional Effectiveness** from the **Southern Association of Colleges and Schools:**

"A vast variety of assessment procedures is available. The following list provides examples of student outcomes frequently employed in the assessment process:

- *retention and completion rates*
- *student achievement in general education*
- *student achievement in major field*
- *student perceptions of their development toward educational objectives*

- *student affective development*
- *opinions of program quality given by students, alumni, employers, and drop-outs*
- *job placement rates*
- *rates of placement and indicators of performance in graduate/professional education*
- *performance after transfer from 2-year to 4-year institutions*
- *external recognition of achievements of students and graduates"*

In addition, from the same **Manual:**

" **Use of Evaluation Results** . . . . . *institutions must insure that the results of evaluation are used to improve institutional effectiveness. An important step in fulfilling that obligation is the clear communication of pertinent evaluation results to the institution's academic and administrative departments. Data or information provided to each department should focus primarily upon that unit's operations and/or accomplishments of its students. The information should be (1) easily understood by the persons expected to use it, (2) clearly related to pertinent statements of goals or expected educational results, (3) compared (when feasible) to appropriate reference groups, either internal or external, and (4) analyzed in reference to comparable assessments repeated at periodic intervals."*

CAREER COUNSELING

Much of our follow-up information can be passed along to students who may be considering careers in one of our many program offerings. Information such as job demand, salary rates, types of employers, potential locations of employment, types of jobs, and job availability ratings can help a student determine the program areas he or she wishes to pursue. **George Barnett, Supervisor of Occupational Counseling and Placement at Brazosport College**, discusses:

"The data has numerous implications for our college. With our follow-up data in hand, we were able to respond in a single afternoon to a request for a 5 year analysis. The job title, salary, and employer information provides counselors and students with excellent employment information. We also use the information to respond to licensing and accreditation agencies. The student and employer comments - as well as vocational evaluation assessments - play an important role in our institutional planning."

FOLLOW-UP DATA

It should be remembered that the reason for conducting follow-up is to produce information that can be used by the institution. The Texas community and technical colleges have found that the key to the use of the information in a constructive manner lies in producing answers to the below questions:

- How does our college data compare with other colleges' data? Colleges want the ability to compare their own data with other community and technical college data on a statewide or regional composite basis.

- How should this data be interpreted and how should it affect the decisions we make? A level of creativity on the part of the department or office analyzing the information is needed to communicate the results in a clear and succinct manner - while addressing needed areas of concern to the institution.

- How does our current year's data compare with the data we've produced in the past? College personnel want the ability to longitudinally compare its most recent data with what has been produced in the past.

- What are our students saying about us? One vital area of interest of college personnel is the "student comments" section of the data analysis.

- What do employers and others think of the training we provide? College personnel want to assure that their occupational programs are meeting the needs of business and industry.

* Such information as the below are an integral part of our institutional assessments:

- Students' educational goals and goal completion rates
- Employer and student opinions of course and program offerings
- Reasons students do not return
- College transfer information
- Salary and placement rates
- Student educational goal tracking information
- Ratings and opinions of graduates, employers, and nonreturning students
- Responses to accreditation and licensing agencies
- JOBS data for updating courses and use in career counseling
- Student retention and institutional marketing
- Analyses and how to use the data
- Ability to compare our own data with other college data
- Use of follow-up data in placing students

Such information can be valuable in many ways such as:

1. Presentations to college President, administrative cabinet, and/or governing body.

2. Formulations of reports for institutional accreditation visits.

3. Fulfilling state vocational reporting requirements.

4. Forming the basis for making requests to institutional staff to respond to issues raised by the data results.

5. Reporting and presenting to instructional and student services administrators, department chairpeople, directors, and program coordinators.

6. Providing public relations information to the student body through campus news releases.

7. Publishing of jobs, salaries, and employment information for use in career counseling and job placement activities.

8. Use of "jobs" data, student comments and assessments, and employer assessments in updating and enhancing courses and programs.

9. Relaying student comments to local and area newspapers, publishing comments prior to registration for student recruitment purposes, and providing student and employer comments for course schedule booklets.

10. Analyses on a longitudinal (3 to 5 year) basis.

11. Presenting and reporting on issues of special concern to the institution and responding to requests from the college's constituency.

12. Providing data for special college brochures advertising the college's programs and services.

13. Using the results of follow-up in college promotional materials and campaigns.

14. Using the survey results for R&D, federal, and state funding.

15. Providing survey results to legislators and political groups who need additional information concerning the role and scope of the colleges.

COLLEGE PARTICIPATION

About 87% of the community and technical colleges now participate in the Tex-SIS follow-up system. Those colleges contributing data to this publication are listed below. Those colleges contributing to the publishing of this booklet are noted with an asterisk.

Alamo Community College District*
- Palo Alto College*
- San Antonio College*
- St. Philip's College*

Alvin Community College*
Amarillo College
Angelina College*
Austin Community College*
Bee County College*
Blinn College*
Brazosport College*

Central Texas College
Cisco Junior College*
Clarendon College*
College of the Mainland
Collin County Community College District*
Cooke County College*
Dallas County Community College District
- Brookhaven College
- Cedar Valley College
- Eastfield College
- El Centro College
- Mountain View College
- North Lake College
- Richland College

Del Mar College*
El Paso Community College
Frank Phillips College
Galveston College*
Grayson County College
Hill College*
Houston Community College System*
Howard County Junior College District*
Kilgore College*
Lamar University at Beaumont
Lamar University at Orange*
Lamar University at Port Arthur*
Laredo Junior College*
Lee College
McLennan Community College*
Midland College*
Navarro College*
North Harris County College District*
- East Campus*

North Harris County College District*
- South Campus*

Northeast Texas Community College*
Odessa College
Panola Junior College*
Paris Junior College
Ranger Junior College
San Jacinto College District*
- Central Campus*
- North Campus*
- South Campus*

South Plains College*
- Levelland Campus*
- Lubbock Campus*

Southwest Texas Junior College*
Tarrant County Junior College District
- Northeast Campus
- Northwest Campus
- South Campus

Temple Junior College*
Texarkana College*
Texas Southmost College*
Texas State Technical Institute*
- TSTI - Amarillo*
- TSTI - Harlingen*
- TSTI - Sweetwater*
- TSTI - Waco*

Trinity Valley Community College
Tyler Junior College*
Vernon Regional Junior College*
Victoria College
Weatherford College
Western Texas College*

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